

## Chapter 4

# The Cerro Grande Fire

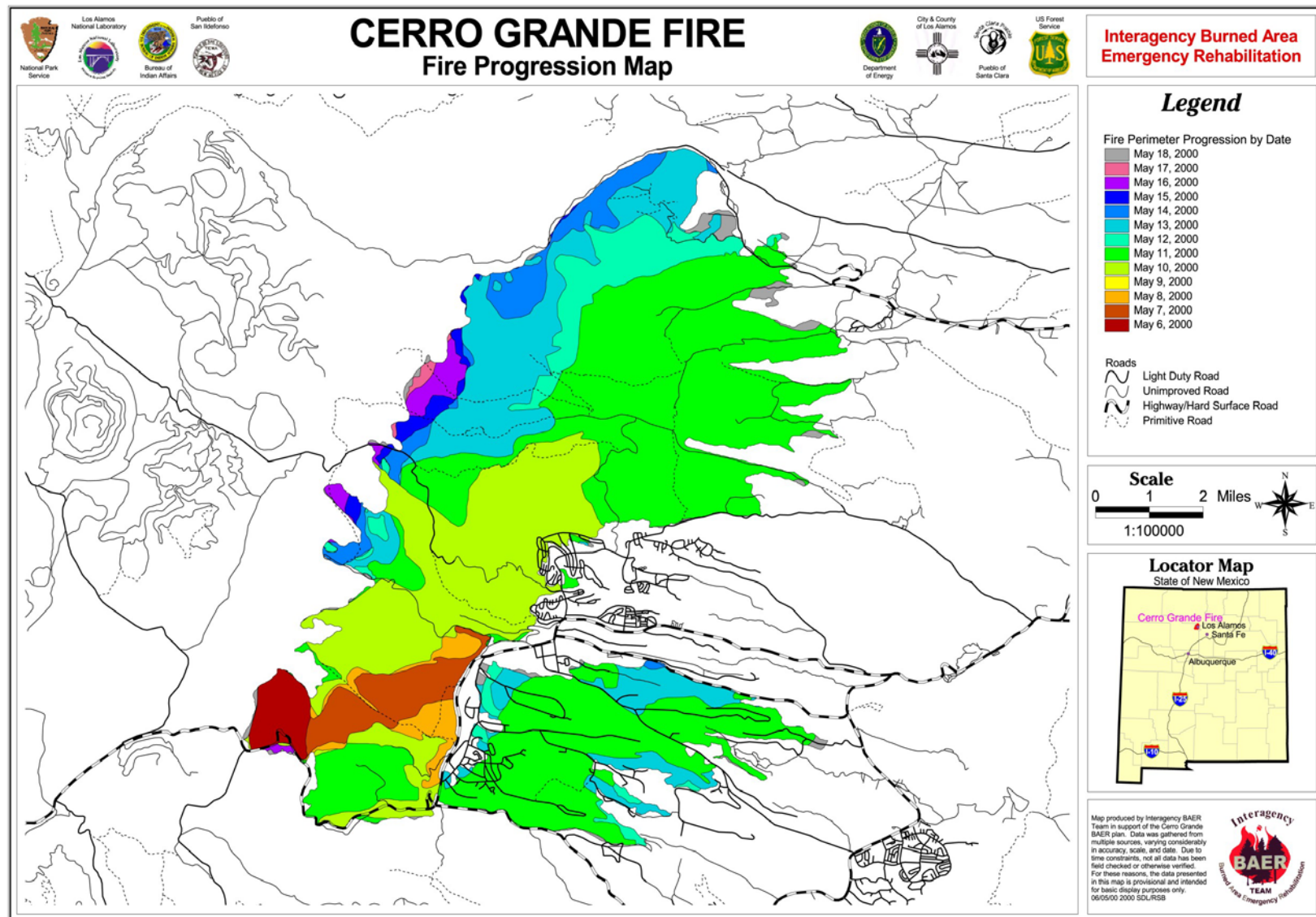
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The cause, nature, chronology, and consequences of the Cerro Grande Fire have been documented in a variety of reports (e.g., DOE 2000; LANL 2000, 2001a, 2001b). In brief, the fire began as a controlled burn on Cerro Grande Peak in Bandelier National Monument on May 4, 2000; the fire was not contained until June 6, 2000 (Figure 4.1). By May 5, the controlled burn was declared a wildfire. A state of emergency closure was declared May 7 for the Los Alamos town site and LANL; it became effective on Monday, May 8. On May 7, fire suppression efforts were initiated at LANL; and by May 8, the first spot fires were observed on LANL property, and businesses in the Los Alamos town site were ordered closed. Although spot fires at LANL were still igniting on May 9, cooler temperatures, brought on by the passage of a weak weather front, brought increasing hope for the containment of the fire.

On May 10, increasing winds gusted more than 50 miles per hours (80 kph) and led to spot fires occurring more than 1,100 m (0.75 miles) ahead of the main fire front. Wind speeds coupled with extremely low humidity led to a 100% probability of ignition, that is, the probability that an ember would ignite combustible material. The Los Alamos town site was evacuated that afternoon, and the community of White Rock was evacuated shortly after midnight. President Clinton soon declared the fire a national disaster.

In the 24 hours between noon on May 10 and noon on May 11, the fire consumed nearly 20,000 ac (8,100 ha), which included homes in the Los Alamos town site and more than 5,000 ac (2,025 ha) of LANL lands. Between May 11 and 12, the fire consumed an additional 2,400 ac (970 ha) of LANL lands, which included burning through TA-6 and an advancement of the fire across Two-Mile Canyon into the TA-50/55 area. The fire also advanced north of the Los Alamos town site into Rendija and Santa Clara Canyons. After May 14, the fire was no longer advancing onto LANL lands and the Los Alamos town site and began diminishing in the areas north of Los Alamos. On May 15 the White Rock and Los Alamos town sites were reopened to residents. Occasional spot fires were still observed in many areas during the next couple of weeks, but by June 6, the Cerro Grande Fire was declared fully contained.

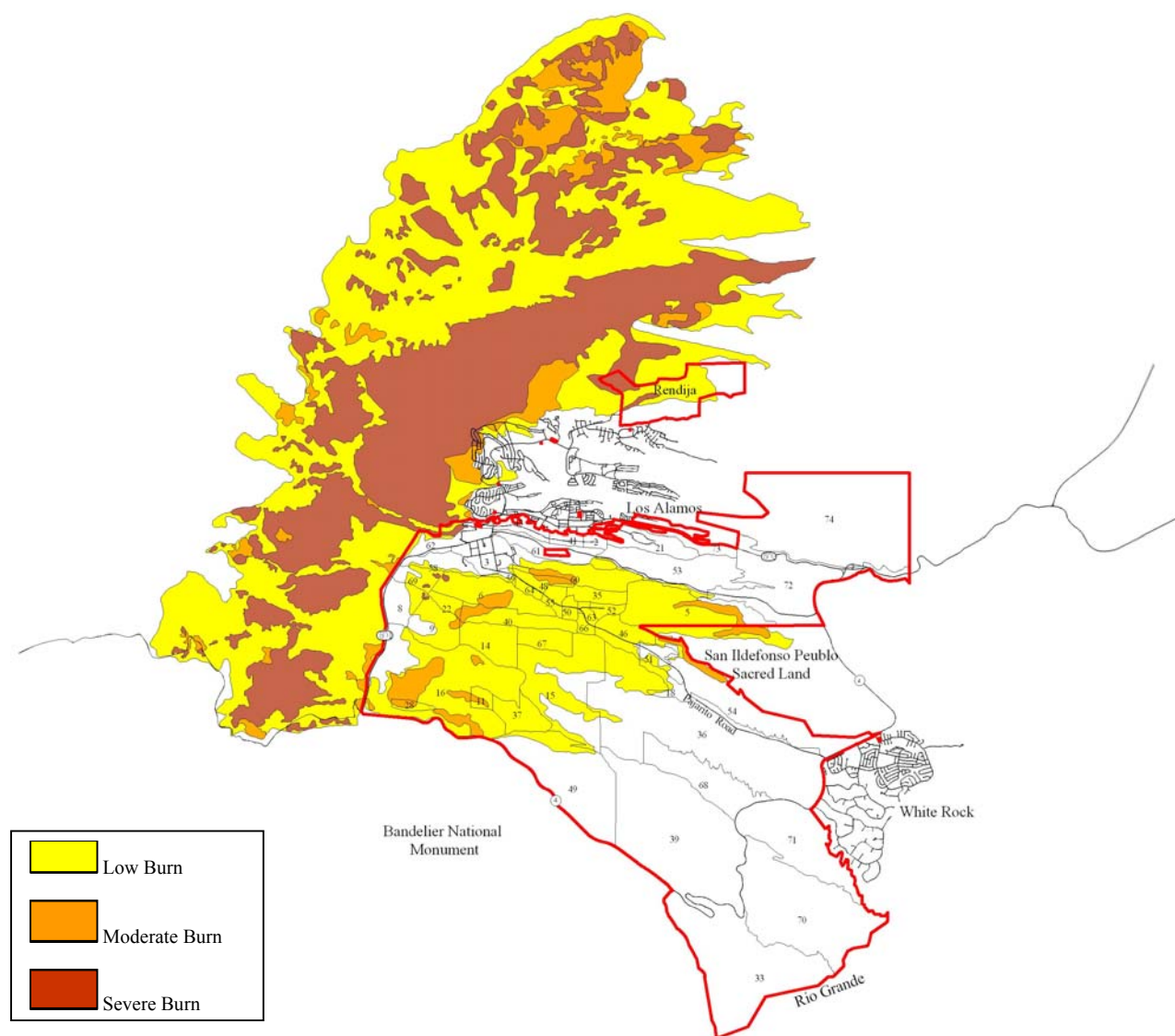
When it was over, the Cerro Grande Fire had consumed approximately 47,650 ac (19,300 ha) of land, including 7,650 ac (3,100 ha) of LANL property and approximately 480 ac (195 ha) of land in the Rendija Canyon tract, an area owned by the Department of Energy (DOE) and administered by LANL. The Cerro Grande Fire caused more than one billion dollars in damage and destroyed more than 200 structures and homes in the town of Los Alamos and more than 100 structures on LANL lands. Fortunately, although the fire was extensive and intense, no lives were lost.



**Figure 4.1.** Daily progression of the Cerro Grande Fire after it was declared a wildfire on May 5.

Figure 4.2 depicts the extent of the fire on LANL lands and the burn severity distribution. The burn severity data represent averaged information based on an analysis of infrared aerial photographs taken of the fire at night. The important fact to stress about Figure 4.2 is that it represents averaged values, and does not necessarily reflect the reality of the actual on-the-ground fire severity at any specific location. The actual burn severity for individual locations was subject to a host of internal variables, including fuel availability and topography, as well as wind direction and speed, and the duration of the fire in specific areas. For these reasons, one aspect of the assessment project was to ground truth the burn severity data, the results of this analysis are presented in subsequent sections.

As of June 1, 2000, there were about 400 previously recorded archaeological sites within the fire-affected area of LANL and DOE lands (a total of 3,300 ha; 8,100 ac). During the course of the CGFA Project, approximately 50 previously unrecorded sites were identified. The Cerro Grande Fire impacted at least 300 sites. In addition, buildings associated with the Manhattan Project and Cold War periods were damaged or destroyed. Chapters 7 through 11 provide an overview of all of the impacted cultural resources at LANL.



**Figure 4.2.** The extent of the Cerro Grande Fire and its burn severity.

